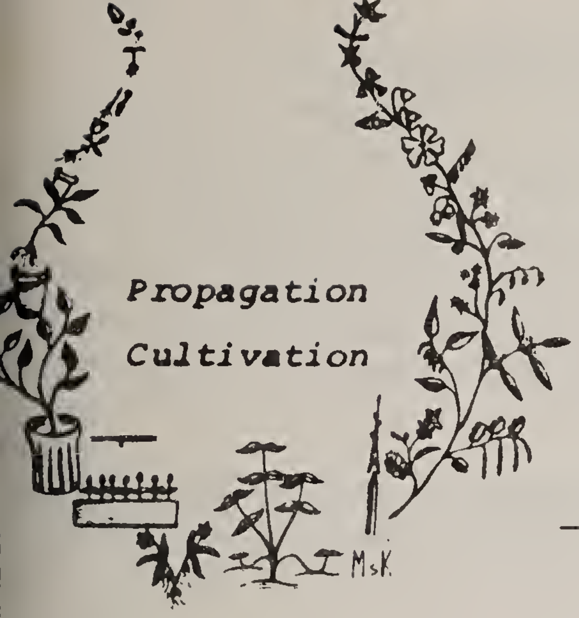

NORTHWEST
ORNAMENTAL
HORTICULTURAL
SOCIETY

NEWSLETTER

July - August 1974

PROPAGATION and CULTIVATION

This issue of the Newsletter features propagation and cultivation. One of the greatest joys of our gardening hobby is learning how to propagate our treasured plant material thus enabling us to not only expand our own landscaping plans but to share our pleasure with our gardening friends. A great many plants that will make their way to the Bring and Buy Plant Sale are little treasures that were propagated in various home conditions by amateur gardeners.

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Wednesday, July 17th 10:00 A.M.

Bring and Buy Plant Sale MEMBERS ONLY

Home of Mrs. Thomas O'Brube
9223 Matthews Ave. N.E.
Seattle LA 2-4581

Our first annual "Bring and Buy Plant Sale" will be held Wednesday, July 17. This is your chance to buy special plants to add to your collection. There will be good information available on how to care for each one.

Bring any plants you have potted up --- trees, shrubs, ground covers, etc. Mark each with the name and price. This is a members only event and the proceeds go to help defray the expenses of printing and mailing our enlarged and very informative newsletter. This will be a wonderful opportunity to meet and get to know other members.

The O'Brube garden is a show place where we can enjoy the plantings while we visit with each other --- free of the crowds that attend the Fall Plant Sale.

The sale will be run the way the Rock Garden Society does its --- so be there at 10:00 A.M. to look at the plants. Selling starts promptly at 11:00 A.M. Bring a sandwich; coffee will be furnished. There will be door prizes, too.

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Prizes of plants will be awarded for the Emblem Competition at the "Bring and Buy Plant Sale" July 27th.

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USEFUL BOOKS ON PROPAGATION

One of the best books on propagation is 'The Propagation of Alpines' by L. D. Hills, which tells how to take stem, root and leaf cuttings and also by layering and seed.

The following list of books all have chapters of the various propagating methods:

'Collins Guide to Alpines' by Anna N. Griffith
'Rock Gardening' by H. Lincoln Foster
'Shrubs for the Rock Garden and Alpine House' by Royton Heath
'Growing Woodland Plants' by Clarence and Eleanor G. Birdseye
'Modern Shrubs' by E. H. M. Cox and P. A. Cox
'Rhododendrons of the World' by David Leach
'Trees and Shrubs Hardy in the British Isles' by W. J. Bean (Volume I)
'Cuttings Through the Year' by Dorothy Metheny and L. J. Michaud
available at the Arboretum Office

FERN SALE REPORT

Our second annual Fern Sale carried an inventory of 2086 ferns - 1293 outdoor and 793 indoor plants, representing well over 100 species and varieties. Our growers provided very handsome plants; our erratic Northwest weatherman produced a lovely day; and our sales totalled $2,630.35 for a profit that currently squeaks over the $1,000.00 mark to $1,002.04. I should like to give very special thanks to the many persons who helped so tremendously in many ways to make the sale a success and I was especially pleased to have so many enthusiastic young faces (and backs) in the working crowd. I look forward to working with you all again next year.

Sue Olsen
Fern Sale Chairman

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ATTENTION

Non-electric calculators are needed for the Fall Plant Sale, October 1st and 2nd. They would be much appreciated since non-electric adding machines are becoming as extinct as the dodo --- or are temperamental in cool weather.

Anyone with one they are willing to loan, please contact Mrs. Ainsworth Blogg at 323-9022.

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Like the new Newsletter? Send in your special gardening experiences for future Newsletters. Your contributions are needed. Subject of the September-October issue will be New and Interesting Plant Material; November-December, Winter Flower and Foliage Color. Send contributions to Sallie Allen, 18540 26th N.E., Seattle 98155.

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Mrs. Brian Mullugan (Margaret) was elected as 2nd Vice-President of the Northwest Ornamental Horticultural Society at the May Board Meeting.

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WELCOME NEW MEMBERS

Mrs. Carol H. Brown	2113 N.E. 81st Place, Seattle 98115	LA 4-7507
Mr. Robert Woodward	1908 Westview Drive, North Vancouver, B.C.	YU 8-9487
Edmonds Community College	20000 68th West, Lynnwood 98036	
Mr. Richard Hansen	532 12th Ave. E., Seattle 98102	329-9229
Mr. Roy E. Smith	5219 88th Ave. S.E., Mercer Island 98040	
Dr. & Mrs. Philip Cartwright	The Highlands, Seattle 98177	EM 5-1268
Ellen F. Larsen	10448 Higore Drive S., Seattle 98108	772-4832
Mrs. Cordell H. Bahn	624 Aurora N., Seattle 98115	565-0527

CHANGE OF ADDRESSES

Dorothy Leckenby	9004 W. Shorewood Drive, Mercer Island 98040	
Mrs. Page Ballard	2029 212th S.E., Issaquah 98027	
Mrs. W. B. Baldwin	1809 Parkside Dr. E., Seattle 98112	
Mr. Neil Hall	1230 N.E. 88th, Seattle 98115	
Mrs. George D. Swetnam	19253 Lake Francis Rd. S.E., Maple Valley 93038	
Mrs. Jack F. Shunk	10918 325th Ave. S.E., Issaquah 98027	432-9604

Please remember to mail all address changes to: Mrs. Stephen Herron
442 Upland Road
Bellevue, WA 98004

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University of Washington Arboreta
Seattle, Washington 98195

phone: 543-8800

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A 4 X 6 FOOT COLD FRAME

Cold frame construction need not be complicated. Successful plant cultivation is dependent more on the location, drainage and personal attention to the plants than upon the materials used. The frame should be located so as to provide a maximum amount of light but not direct sun at any time of day. The area of shadow cast by a building or a deciduous tree is a very good location.

Two-inch thick lumber provides enough thermal protection during our mild winters for rooted cuttings or seedlings. The frame may be further insulated by banking the walls with sawdust or soil.

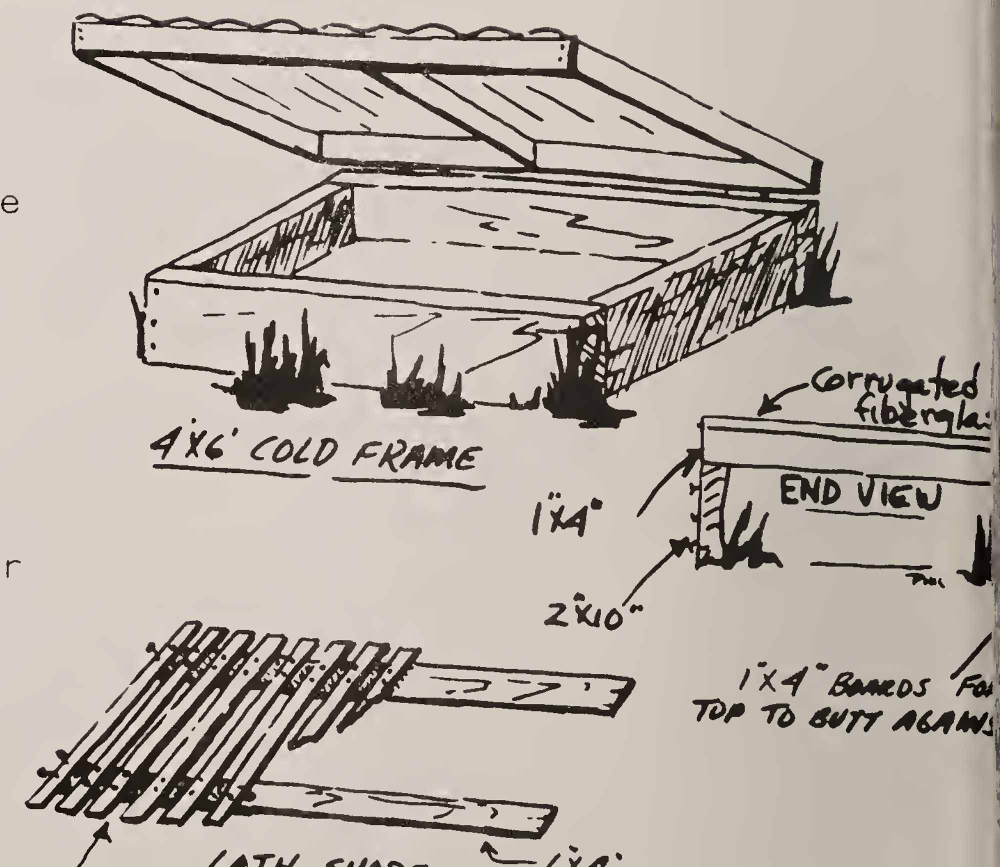
Lumber is reasy to work with and lumber yards will trim a few pieces to length, leaving only the task of nailing them together. All surfaces in contact with the soil should be painted with "Wood Life".

Frame size should be kept small for ease of lifting the cover. The frame shown is 4 x 6 feet. Wood lath is used for shade and no trimming is necessary. The lath should be oriented North-South. The cover framework is made from 1 x 4 inch lumber covered with corrugated fiberglass panels. The cover is propped up for ventilation with a 1 x 4 inch board. You may use more elaborate means; however, this method is dependable.

Phil Pearson
Issaquah, Washington

MATERIALS

Frame	2 ea. 2"x10"x 6'	cedar sides
	2 ea. 2"x10"x36"	cedar ends
	2 ea. 1"x 2"x 1'	top braces on back of frame
Cover	2 ea. 1"x 4"x 6'	pine sides
	3 ea. 1"x 4"x38"	pine ends and cross piece
	3 ea.26"x4'	corrugated fiberglass panels
	1 ea. 1"x 4"x 3'	pine prop for raising cover
Shade	1 bundle of lath	
	2 ea. 1"x 4"x 6'	pine stringers
hardware	1 doz. 60 d nails	
	¼# 3 d nails	
	2 doz. 16 d nails	
	1 doz. fiberglass nails	
	1 qt. "Wood Life"	
	1 paint brush	



USING BENLATE IN PROPAGATION

Damp-off of seedlings and the loss of cuttings due to fungus diseases is perhaps the knottiest problem growers, both amateur and commercial, have to solve.

At last, the answer seems to be in an excellent fungicide now readily available at most nurseries and garden stores.

The product is Benlate and we started using it after reading an excellent article by George W. Clarke, a commercial grower of Rhododendrons in Portland, Oregon. We have had excellent results using his methods.

Seedlings are watered with a mixture of 4 teaspoons of Benlate to 2 gallons of water plus 30 drops of spreader or wetting agent. This is repeated every 12 days until seedlings are ready to be planted outside.

This same mixture is excellent on older azaleas to prevent unsightly fungus growth. Two sprayings during the summer seems to control this evil very well.

To prevent fungus diseases from carrying off all your cuttings, once again rely on Benlate. After preparing cutting for insertion in rooting medium soak entire cutting in a solution of Benlate (1 tablespoon to 2 gallons of water plus spreader) for upwards to half an hour. Remove cuttings from solution and allow to dry long enough so can be dipped in rooting hormone.

Spray cutting benches monthly with the standard solution (directions on container). Mr. Clarke says this practice may slow rooting a bit but he has achieved 90% take on his cuttings and no later loss due to disease.

Try it --- you'll like it!

Frankie Michaud
Issaquah, Washington

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SEED COLLECTING IN THE WILD

Plans for collecting seed in the wild can be a year-round project. Materials can be assembled, trips planned, and plants selected, all well ahead of harvest time. Tight containers are essential. Otherwise runaway seeds escaping from them often perish in our pockets. Small brown paper bags like those containing nails from the hardware store (about 4 x 7 inches or less), after labeling, may be folded down and kept tight with rubber bands. Small envelopes can be used but guard against open corners. If one knows the little trick of folding a spill-proof packet, some squares of firm paper are needed. Small plastic bottles can be used if their stoppers are safe and there is room for labeling. But those who have fought battles with jumping seeds and static seldom use plastic bags. All containers should be marked with a heavy dark pencil or a broad-pointed pen.

In Spring when a special plant catches one's eye, it can be marked for a later return for seed. A small, inconspicuous wooden marker that will not leave debris if one does not return, can be placed at the base of the shrub or plant to help identify the special one. Later, drying seed pods, darkening seeds, and splitting capsules all indicate that gathering time is near, or at hand. But patience is needed; immature seed produce poor or no progeny and are a waste. Be sure to write the date, name or descri tion and habitat on the packet before putting in the seeds of the selected plant. Memories are sometimes short and often inaccurate and writing done over seeds or seed hea is usually illegible.

Let us remember that we are trespassers in nature's garden, that we must not strip her of all her harvest, or leave her garden untidy, but be grateful that she does provide in those tiny miraculous seeds, joy and beauty that we otherwise could not know.

Eileen Sutton
Seattle, Washington

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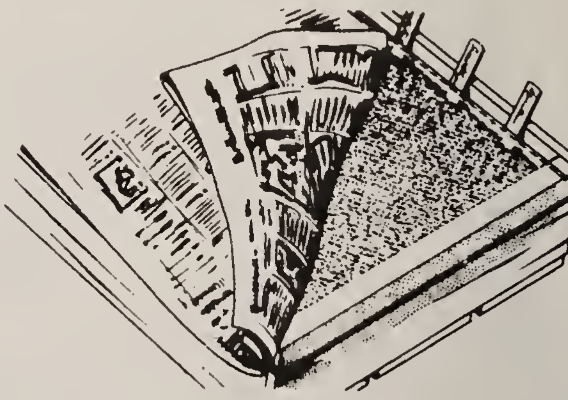
SEED PROPAGATION

To me, the propagation of plants by seed is the most fascinating aspect of gardening, especially when a rhododendron, azalea, or menziesia you have raised from seed blooms for the first time.

After many years of trying different methods of raising plants from seed, I have found a method which is both simple and successful. I use a good grade of spaghnumlike peat and sand which are both sterile and eliminate the unpleasant and messy task of sterili ing soil. Straight peat or peat with a small amount of sand mixed in is ideal for sowing ericaceae or diapenaceae seed. I've tried both mixtures and they are equally good However most kinds of seed prefer a sand-peat mixture, about two-thirds sand and one-third peat (the peat helps to hold moisture). The moist mixture should be patted firm into a clean flat or plastic pot and seeds scattered on the surface, except for large seeds which should be pressed into the mixture so they are covered. Then the flat should be lightly and gently watered and a close fitting pane of glass placed on top and covered with newspaper. When sowing very find seed of difficult alpines, I scatter small rock chips such as chicken or turkey scratch over the surface of the mixture, sow the seeds and water in. Plastic pots are best used for these seeds as sometimes it takes several years for the seed to germinate.



The glass should be checked frequently and wiped off if very much moisture accumulates underneath. The newspaper should be removed when the seed starts to germinate and the flat or pot moved out of the direct sunlight. When the seedlings have grown ½ to 1 in high, the glass can be removed during the day, depending on the weather, then covered at night, to harden off the seedlings preparatory to transplanting. Never let your seedlings dry out as this usually proves to be fatal. When the glass is removed it is wise to place a screen over your flat or pot to protect the tiny seedlings from birds, squirrels and chipmunks as they have a fondness for scratching out plants.

Propagation by using cuttings is a much quicker method of increasing plants and the on way (except for layering) to reproduce the same plant. Bottom heat under your cutting gives a much higher percentage of rooted plants.

Altha Miller
Issaquah, Washington

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HAVE YOU EVER WASHED A BUMBLEBEE?

If not, then you have not explored all the possibilities of propagating the recalcitrant Kalmia.

For about 10 years now I have been trying root cuttings from my favorite bright pink form of Kalmia latifolia. 100% utter failure! I took cuttings along with Rhody cuttings in August and September. Only recently have I seen much in the way of helpful hints. I know now that cuttings taken during December and January will root, as well as tip cuttings from small seedlings in early August.

Now, after further research I have come across a method of seed propagation that I, myself wouldn't touch with a ten foot pole, but maybe there are some braver growers among our readers. Richard A. Jaynes wrote up this method in the Connecticut's Frontiers of Plant Science in 1971. He suggests that an alternative means of propagation is available by reproducing the best forms from seed. It had been discovered that certain selections of Kalmia will come true from seed. This is how he proceeds. Before the flowers open, a screened cage is placed over the plants to be pollinated or hybridized. When the flowers are open, one or two bumblebees, gently washed to remove foreign pollens, are introduced into the cage. They do the rest.

A very interesting plant belonging to the Lawrence Pierces is a cross between a Rhododendron Williamsianum and a Kalmia, a very rare specimen indeed. Do you suppose some thoughtless bumblebee came calling without first wiping his feet?

Sis Bledsoe
Snohomish, Washington

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Several people were asked how they propogate from cuttings, resulting in the following articles. There are several things they do somewhat alike but are different enough to make it worthwhile to print each in its entirety. One might be just the right combination for you.

I haven't tried propagating exactly like any one of the methods, but I have used Fran Bailey's special Hormone mix with fantastic results.

Verna Shunk,
Issaquah, Washington

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A GREENHOUSE FOR CUTTINGS

Most plants can easily be rooted in a miniature greenhouse made from materials readily found in your home. To make your greenhouse get an old wooden fruit box from your grocery store and rebuild it so the rooting medium will not leak out. Next, two old coat hangers are cut and fashioned into hoops somewhat like a covered wagon; the hoops can be stuck into holes made in the thick end boards of the flat. The cover to the greenhouse can be an old plastic bag from the dry cleaners; they are large enough and allow exchange of air.

The rooting medium must be made from clean sand and fresh fine grind peat moss --- equal parts of each. The medium should be kept moist; it is important that it not be allowed to become either dry or soggy wet. The cuttings will tend to rot if kept too wet.

The cuttings are made generally from this season's growth just as it begins to get firm; very soft cuttings generally rot, and cuttings that become too woody are not active enough for the best development of roots.

The cuttings should be made with a sharp knife or single edged razor to prevent damaging the tissue where the root callous will form. A rooting hormone should be applied to the cut area to help stimulate rooting. The cuttings are then placed in small holes in the rooting medium made with a pencil and firmed in place by pressing the medium against the stem. Moisten leaves of cuttings with spray bottle during the process if the air is warm or humidity low to prevent any wilting. Larger leaved plants can have their leaves cut in half so they fit easily into the flat.

Finally, and maybe the most important step of the whole process is the placement of the small greenhouse during the rooting interval. The flat must be kept from the direct sunlight. The sun's rays will heat the enclosed area causing the plants to literally cook and drastically reduce your chances of rooting the plants. The best location is a frequently observed place on the north side of a building, fence, or tree where the greenhouse will receive the maximum of diffused light, but no direct sun light.

Check the cuttings periodically and remove any decayed leaves or rotting cuttings. As the plants root remove them to their own containers and pay close attention to them until they get established. The newly transplanted cuttings should be partially covered with plastic in the same kind of environment as the cutting greenhouse and then slowly remove the plastic until they have adjusted to the less humid environment.

Stephen Doonan
Issaquah, Washington

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PROPAGATING VEGETATIVE SOFTWOOD AND SEMI-HARDWOOD CUTTINGS

Planting Media

For the planting media, use 2/3 builders (washed) sand to 1/3 peat moss. Put the planting media in a 4" deep flat and sterilize it by baking it at 205° oven for 2 hours, (put foil under flat to keep dirt out of the oven) or pouring boiling water over the flat. If using boiling water let flat drain 5 to 6 hours. If baked pour hot water over flat till it is thoroughly wet clear through and let drain. Any planting media remaining in a flat after the rooted cuttings have been transplanted may be used for planting media again provided it is sterilized again.

For Rhododendrons, Camellia, Azalea and other hard to root plants, use 1/3 sand to 2/3 peat moss.

Hormones

There are several different kinds of hormones for use at different times of the year. For the beginner, the simplest is "Hormodin" Powder #1, #2, #3. Use according to the chart enclosed in the box. If in doubt it is better to use #1.

For the more experienced grower try Rhododendrons, Camellias, etc. Use this hormone mixture: Mix 1 teaspoon Fermate in 3 teaspoons of Hormodin No. 3. Then measure out 1 teaspoon of this powder in a container and add 1 teaspoon of Rootone No. 10. Stir together and use to dip your cuttings in.

Taking Cuttings

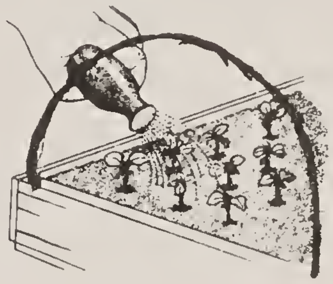
Tip cuttings and heel cuttings should be 4" to 6" long. Take cuttings from plant material that is actively growing. Cut just below a node (a node is the joint-like swelling on the branch where a leaf stem is attached.) Cut off only the lower 2 or 3 leaves on the cutting. Sometimes heel cuttings are pulled from the plant, but it is better for the plant to cut them off. The best time to put cuttings in a flat is just after they have been taken from the plant. However, by observing the following instructions, you may wait 4 to 5 days between taking cuttings from the plant and putting them into a flat:

1. Do not dip your cuttings in water unless very dry material is being taken.

2. Put the cuttings and a wet paper napkin in a tighly closed plastic bag. Keep it in a cool place (like on the ground in a shady spot); enough moisture will be trapped in the bag to keep the cuttings moist.
3. Within 4 or 5 hours (sooner the better) after taking the material, cut it (do not scar) to the size that will be used when it is put into a flat.

Planting the Cuttings in the Media

Using a pencil, putty knife, a dibble or a paring knife, make rows of holes or trenches about 2" apart. Space cuttings, or holes in a row, so that there is a one inch space between each one in the row. This allows circulation of air which helps to prevent damping-off. Scar cuttings that are pithy by placing the flat side of a knife toward you. Then starting about 1" above the end make a slash about 3/4" long; always stop the slash at least ¼" from the end of the cutting so that water and auxins can feed it. Remember --- just cut to the cambium layer and not to the white heartwood. Hairy or hollow stemmed cuttings are not to be scarred; they are just dipped. Dip the scarred cutting in the hormone mix enough to cover the slash and insert 2" deep, or so that 2 or 3 nodes are below the media surface; tamp well. Dampen the flat with just enough water (about 1 cup) to settle the media about the cutting so as to keep out the air. Then cover the flat with a plastic cover (.004) about 36" by 36". This size will be large enough to fit over the hoops which are made from number 14 wire, 2 feet long. (Coat hangers can be used sometimes.) Finally tie the plastic cover on securely with a stout string.

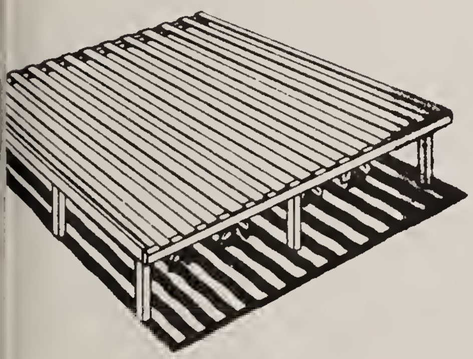


Storage of Flats of Cuttings

Keep flats at a temperature of about 50 degrees in a semi-shaded place. (I prefer the North side of the house with no sun on the flat unless it is the first rays in the morning or the last rays at night.) The sun must not shine through the plastic on the cuttings; this is sure death. Check the condition of the flat every two weeks. Water sparingly; approximately 2 cups of water will suffice. A flat that is too wet coupled with too warm temperatures will develop fungus even though the flat has been sterilized at the start. If fungus forms (it looks like cobwebs) or is white growth in the ground, remove it with your fingers or a tool. Dust with garden fungicide containing Captan. Then every two or three days take off the plastic cover; shake off all the dew and replace the cover. This usually corrects the trouble. Keep the flat free of debris, such as fallen leaves, at all times. Remove any cutting that has decayed as it will not root and can cause additional fungus trouble.

Transplanting

After approximately 6 weeks rooted cuttings may be transplanted into the ground; a flat consisting of 1/3 peat, 1/3 soil, or cold frame. When you transplant, any unrooted cuttings may be redipped in hormone and reset in the original flat. Protect transplanted rooted cuttings from sun, cold and dryness for the first year. Any kind of liquid fertilizer may be used to boost growth. After the first year these plants can be treated as any other plant of its kind.



NOTE: Rhododendrons, Camellias, Azaleas and many other hard to root cuttings may be left in the flat for a full year before transplanting into individual potting or cold frame planting. You will find that all of your cuttings do not root at the same time even though the same variety. The best method I have found is to gently check a plant in your flat after about three months to see if it rooted enough to move.

This is a collection of many peoples experiences and is not a hard, fast rule in most cases. As you work with these cuttings you will have some information that may prove to be of value to others. Pass them along as I am passing this along to you.

One Last Caution: DO NOT GET YOUR FINGERS AGAINST THE END OR SCARRED AREAS OF YOUR CUTTINGS. THE OIL FROM YOUR SKIN WILL CLOSE THE PORES OF THE CUT AREAS AND WILL INTERFERE WITH THE GROWTH OF THE ROOT SYSTEM IN YOUR CUTTINGS. IT IS A NATURAL ACTION TO PUT YOUR FINGER ON THE END OF THE CUTTING AS YOU MAKE THE SCARRING ON THE SIDE.

Mrs. Chas. H. Bailey (Fran)
Port Gamble, Washington

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BE PREPARED FOR YOUR CUTTINGS

"The time to take a cutting is when it is offered to you" is said only half jokingly. Each plant does have a period when cuttings root most readily, but often the cutting is available at another time. Much to your surprise and pleasure, it will form roots. Many of my garden treasures were started by a chance offer of a cutting, and I've share the same way. Having a rooting flat ready for use ahead of time helps in saving time and I have better results with a sand-peat mix that has "mellowed." Some of my flats were filled several years ago with more material added and blended in as needed to keep the level near the top edge.

There are many "recipes" for mixtures and ways of handling the flats after the cuttings are in. The following is the method that has proved best for me. Though I do have a small greenhouse now, for years I used a cold frame to protect the flats from cold. I've also used the carport, the patio, and even had flats in the living room on a TV tray when bitter cold was predicted. Basically, flats should be protected from direct sunshine or freezing, and must not be allowed to dry out. The latter is hardest to prevent for most gardeners with family, work, and related activities controlling their time.

A shallow box about 15" x 13" x 4" deep is a good size for ease of handling. Fill with a mixture of equal parts of soaked peat moss and clean builders sand. To moisten dry peat moss use almost boiling water. Fill a pail about 1/3rd full of dry peat, add the hot water slowly, stirring with a trowel to break up large lumps. Add as much hot water as the pail will hold as the peat moss expands. By the time the mixture is luke warm the peat will be well soaked, or better yet, leave it overnight. Gently squeeze out excess water and add to an equal amount of sand. Mix this very thoroughly, breaking up and crumbling any lumps of peat. Cuttings with fine hair roots, such as rhododendrons, form a better root ball for transplanting when started in a very well blended mix. Fill the flat evenly, using a brick or piece of wood for pressing and firming. Fill to ½" from the top edge.

Cut a piece of 4 mil plastic large enough to cover the bottom and sides of the flat. Top the plastic with two sheets of newspaper cut large enough to cover the bottom of the flat and up all sides at least one inch. Center the filled flat on these, fold them up around the flat, mitering the corners. Be sure all of the corners angle upwards so moisture from the flat will not drain out. Cuttings that are allowed to dry out rarely form roots. The plastic keep some moisture around the flat and water can be poured in between the plastic and the flat. This is particularly useful with very small cuttings. Also, when roots form they reach downward for moisture and make sturdier root balls. The newspaper prevents sharp corners from puncturing the plastic. I've been told that the printers ink deters insects and molds. Perhaps it does, since I never seem to have either.

More protection for cuttings can be provided by using an arc of heavy wire at each end of the flat and fastening plastic over these to form a very small greenhouse. During freezing weather a piece of burlap or something similar can be draped over for more protection.

Water the cuttings when the top surface feels slightly dry. Pour the water in between the plastic and the flat. Experience will tell you how much to add. It depends on the size of the cuttings, the temperature, and whether the flat is covered over the top.

Some cuttings form roots in several weeks, others may take all winter. I prefer to transplant in the Spring when the ground is warmed up. Wrapping the flat in plastic simplifies winter care.

Barbara Pope
Issaquah, Washington

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FOR THOSE WHO DO NOT HAVE A GREENHOUSE

Never refuse a cutting whether it is the right time or not. You may be fortunate in rooting the slip. These words are from a very wise and competent gardening friend. After the cuttings have made a good root system in your rooting media plant them in a flat with a mixture of humus, sand, peat moss and vermiculite. The last two items help to retain moisture in the soil. The vermiculite is sterile and acts as insulator in both hot and cold weather. Place the flat in a cold frame and pack vermiculite around it, also plunge clay or plastic pots containing small plants into this. Should the roots come through the bottom of the pots a good root system will form; the pots in this case will have to be broken before the plant is put into the ground.

Rooted cuttings may also be planted directly in the cold frame in a good humus and sand mixture. Protect the frames with laths during the summer and water as required. In winter cover with glass frames so that the cuttings will not become saturated but never let them dry out. When the temperature is low and freezing cover the glass with lath frames. Although the plants may freeze solid, cold wind and sunshine will not have direct contact with the rooted cuttings. These two factors cause more damage than cold to the plants. During the milder days be sure there is sufficient air circulation inside the frames by placing a block of wood under the glass. A good percentage of the cuttings and plants should come through the coldest winter.

Margaret Mulligan
Kirkland, Washington

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CULTIVATION - Difficult Plants

Chimaphila umbellata, commonly known as Pipsissewa or Prince's Pine, is a delightful plant of our coniferous forests, though not our native alone as it is of circumpolar distribution. It would be an attractive addition to the home woodland because of its leathery evergreen leaves and charming waxy pink flowers. To my knowledge, few people have been able to establish it. A collected bit has the infuriating habit of existing for several years in the garden, then suddenly dying. Its habit of growth, with a heavy creeping rootstalk, nearly devoid of rootlets seems to be the problem. The rootstalk creeps underground, sometimes many inches, periodically sending up a cluster or clump of leafy stems, so that you have great colonies with no apparent beginning or end. In collecting a clump you have a bit of rootstalk but precious few rootlets to sustain it, thus it lingers and dies.

My luck with growing plants from seed is consistent --- all bad --- so I have had no worthwhile experience with this method of propagation. Cuttings of unflowered portions will sometimes root eventually, however, it takes a long, long time, two years or more. After many years of trying, I have two from cuttings.

There is a third alternative. Try to find the smallest possible seedling with its own complete root system that has not as yet developed the heavy rootstalk. They are not easy to find as they are not plentiful. I have only found two *Chimaphila umbellata* seedlings and two of *C. Menziesii*, the smaller, more elusive species native to our are Also collect a small plastic bag of the humus in which it grows. Plant your seedling in its own soil in a woodland garden making sure it never is allowed to dry out. Then wait and hope.

In our March-April issue of the Newsletter, Frances Roberson offered "A question and a Challenge", the challenge concerning *Rhododendron albiflorum*. As a result of her inte esting contribution she has received seed which is germinating and we will hope to obtain further information from her in the future.

Two of us from the Ericaceae Study Group have grown it in our gardens for about ten years, our plants originally tiny collected seedlings from the wild. Margaret Mulligan has had modest flowering twice during that time but she said that it was certainly nothing like it does in its native habitat. But it does prove that it is growable and will flower if you wait long enough.

My seedling was collected in 1963 from a logged off area of Corral Pass where *Rhododendron albiflorum* grows profusely in the company of *Menziesia ferruginea* and various vacciniums. Out of flower or fruit, identification is somewhat difficult as they can easily be confused. Logging must have taken place there many years ago as the remaini stumps are partially rotted. It is in the damp crevices of these stumps where the decomposition has reached the point of a soft pulpy material that seed lodge and germi ate. One would think with the multitude of seed set each year as evidenced by the ope seed capsules remaining from the previous flowering, that seedlings could be found everywhere, beneath the plants or in rotted logs which are plentiful. Not so. Many times since I have searched the area to try to find tiny plants to send to overseas friends. (I have never been in the right place at the right time to collect seed for those who have requested it.) The only place I have found seedlings is in the stumps as described, and at that, they are few in number.

My little rhododendron was planted in rotted wood in a large pot and sunk in the open ground in half shade. It leafed out each year but never entirely happy and the growth rate hardly noticeable. When we moved to our present location six years ago, the pot was lifted and brought with us. When one of the first garden areas was prepared, it was planted directly into the ground in full sun. Although the main stems and branches grew stalkier, it seemed more to reluctantly exist than actually grow and thrive.

Two years ago *Rhododendron albiflorum* was transplanted to a new quite large garden are that had never before been cultivated. It is in part shade, the natural soil is gritty, contains much woodland duff and rotted wood and the drainage is excellent. This year my miffy rhododendron looks beautiful! It has put on 6" of new growth forming a compact shrub 15" in height with healthy, shiny leaves. This garden has proved to be a happy home for many dwarf *ericaceae, rhododendrons, menziesias, kalmias, cassiope, gaultherias* and not only has the difficult *Chimaphila umbellata (Pipsissiwa)* finally established but is beginning to romp. *R. albiflorum* did not flower this year, however, there is now hope that it someday will.

Sallie D. Allen
Seattle, Washington

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IVERSITY OF WASHINGTON, WASH. 98195

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